

VGO COUNTY AIR POLLUTION CONTROL
FIELD INSPECTION REPORT

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Signature: [Signature]
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SOURCE: HYDRITE CHEMICAL COMPANY

PLAN ID NUMBER: 69

LOCATION: 1330 Lockport Road

INSPECTED BY: Brian Ellis

CITY: Terre Haute, IN 47802

INSPECTION DATE: 11/21 & 12/12/05

REPORTED BY: Brian Ellis

REPORT DATE: 1/09/06

COUNTY: VIGO

TELEPHONE: (812) 232-5411

COMPLAINT INVESTIGATION? NO COMPLAINT NUMBER

ATTAINMENT X NONATTAINMENT : SO₂ CO O₃ NO₂ PB PM₁₀
TSP

CHECK IF APPLICABLE: NSPS NESHAP FESOP TITLE V
OTHER x IDENTIFY Minor

PERSONS /TITLE INTERVIEWED: Jon Bacon, Laboratory Manager

OBJECTIVE(S): To conduct an Unannounced Full Compliance Evaluation (FCE) in calendar year 2005, to determine compliance with source specific operating conditions and limitations, and all applicable Indiana Air Rules. This FCE covers the period from Dec. 20, 2004 to Nov. 21, 2005

DESCRIPTION OF SOURCE: The source operates 2 systems which produce Sodium, Magnesium and Ammonium Bisulfite. The source operates under permit number 69-2869-01-93. In the batch system, SO₂ and ambient air are fed to a scrubber (packed bed tower) where they are absorbed by 10% caustic solution (Sodium Hydroxide) to form Sodium Sulfide. The Sodium Sulfide is sent to a reactor to be combined with additional SO₂ and Sodium Hydroxide to form Sodium Bisulfite. In the continuous system molten sulfur is combusted to produce SO₂. This SO₂ is passed through a series of 3 reactors, each loaded with sodium hydroxide (maintained at different pH levels to ensure proper product composition as well as limiting loss of the raw materials). The third reactor acts as a clean up scrubber, but since the resulting liquor is fed into the primary reactor to make finished product as well this was determine to be integral to the process. Both systems would use a different base to produce a product other than Sodium bisulfite. Ammonia is used instead of caustic for the Ammonium Bisulfite and Magnesium Hydroxide is used for Magnesium Bisulfite. The source itself is located in the south central part of Terre Haute in an industrial/residential area.